Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

Expanding Flexible Use of the 3.7 to 4.2 GHz Band	)	GN Docket No. 18-122
	)	
Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz (Inquiry Terminated as to 3.3-4.2 GHz)	)	GN Docket No. 17-183
	)	
Petition for Rulemaking to Amend and Modernize Parts 25 and 101 of the Commission's Rules to Authorize and Facilitate the Deployment of Licensed Point-to-Multipoint Fixed Wireless Broadband Service in the 3.7-4.2 GHz Band)	)	RM-11791
	)	
Fixed Wireless Communications Coalition, Inc. Request for Modified Coordination Procedures in Band Shared Between the Fixed Service and the Fixed Satellite Service	)	RM-11778

REQUEST FOR STAY

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SUMMARY

PSSI Global Services, L.L.C. ("PSSI") hereby requests that the Commission stay its Order in the C-band proceeding.[1]

PSSI is the leading full-service satellite transmission company in the United States. It operates a fleet of satellite antenna vehicles, which can operate from any location without having a fixed latitude and longitude, unlike stand-alone, fixed receive antennas (the "Transportables"). The Order causes considerable and immediate harm to operators of Transportables. PSSI has sought judicial review of the Order.[2]

The Order enacts numerous, drastic changes to the rules governing the C-band, including taking away 60% of the available C-band spectrum currently used for distribution of video programming. The Commission has issued licenses to PSSI for the Transportables that permit PSSI to receive global satellite signals in the 3.7-4.2 GHz frequency range in the C-band from any location (downlink – i.e., receiving a signal from a satellite), which are permanently paired on those authorizations with authority to transmit on the 5.925-6.425 GHz band (allowing the uplink – the return signal to the satellite) (the "Licenses"). By taking 300 MHz of spectrum, as well as failing to provide sufficient interference and power level protections to operators of Transportables like PSSI, the modification in the Order is so total as to render the Licenses worthless and destroy the company's business.

[1] In the Matter Expanding Flexible Use in the 3.7 – 4.2 GHz Band (Report and Order and Order of Proposed Modification in GN Docket 18-122), 35 FCC Rcd 2343, 85 Fed. Reg. 22804 (Apr. 23, 2020) (the "Order").

[2] *See PSSI Global Services, L.L.C. v. Federal Communications Commission, et al.*, Case No. 20-1142. The SSO appeal and petition for judicial review have been consolidated with the PSSI cases.

The irreparable harms that PSSI has suffered, and which are detailed in the Lamb Declaration, include: (1) the progressive elimination of occasional use ("OU") transponder capacity, which reduces PSSI's ability to provide service at existing levels, if at all, (2) excessively high-power output on in-band and adjacent out-of-band frequencies that already harm the ability to provide reliable service will only get worse, and (3) the related problem that no existing filtering solutions can protect Transportables from interference and damage from high powered emissions of new 5G licensees operating in the lower portion of the C-band. These harms flow directly from the Order.

The Order's legal errors on which PSSI is likely to succeed on appeal are several. First, the Commission has decided to auction 280 MHz of the C-band despite the clear prohibition in Section 647 of the ORBIT Act[3] that forbids it. The C-band frequencies are used to provide international and global satellite communications services. The statute plainly forbids auctioning "spectrum used for the provision of international or global satellite communications services."[4]

Further, the modifications of the Licenses vastly exceed the Commission's authority under Section 316 of the Act[5]. They are so extensive and pervasive as to render the Licenses a nullity and eliminate the continued ability of transportable, transmit/receive earth station operators like PSSI to continue to provide service to the public, far exceeding the limits for permitted modification.[6]

In addition, the Commission modified PSSI's Licenses without adequate notice, in that the Order modified the uplink portion of PSSI's Licenses after the Commission expressly gave notice

[3] 47 U.S.C. § 765(f).

[4] *Id.*

[5] 47 U.S.C. § 316.

[6] *Community. Television, Inc. v. F.C.C.*, 216 F.3d 1133, 1140–41 (D.C. Cir. 2000). *See also MCI Telecommunications Corp. v. AT&T*, 512 U.S. 218, 225 (1994).

that the Commission would be dealing with changes to the 5.925-6.425 GHz band separately from this proceeding[7]. Thus, by repurposing 300 MHz of spectrum in the C-band, the Commission has also effectively eliminated the inextricably linked 300 MHz of the uplink spectrum between 5.925-6.225 GHz paired with the frequencies between 3.7 and 4.0 GHz now to be repurposed for "flexible licensees." Such failure to provide adequate notice of the modification of the uplink authorization is arbitrary, capricious and an abuse of discretion, and fails to constitute reasoned decision making within the meaning of the Administrative Procedure Act.

Finally, the Commission has ignored the existence of immediately available alternatives, such as substantial blocks of frequency ideal for 5G in other mid-band frequency ranges as an alternative to stripping 60% of the spectrum from C-band satellite operators, Transportable Licensees and earth station operators. These include substantial blocks of frequency ideal for 5G in other mid-band frequency ranges. Consequently, the public interest equities support grant of a stay of the Order.

Thus, PSSI has satisfied the *Virginia Petroleum Jobbers* test. The Commission should grant PSSI's Request for Stay.

[7] *Order and Notice of Proposed Rulemaking in GN Docket 18-122*, 33 FCC Rcd 6915, 6921 (¶ 12).

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REQUEST FOR STAY

PSSI GLOBAL SERVICES, L.L.C. ("PSSI"), pursuant to Sections 1.41, 1.43 and 1.44(e) of the Commission's Rules,[1] hereby requests the Commission to stay, pending judicial review, its decision, *In the Matter Expanding Flexible Use in the 3.7 – 4.2 GHz Band (Report and Order and Order of Proposed Modification in GN Docket 18-122)*, 35 FCC Rcd 2343, 85 Fed. Reg. 22804 (Apr. 23, 2020) (the "Order").

1. The Order threatens the future of live events video programming and in particular, transportable earth station operators like PSSI. This harm flows from the Commission's repurposing spectrum and then auctioning it despite a specific statutory prohibition against auctioning spectrum used for international and global services,[2] as well as a questionable interpretation and application of Section 316[3].

[1] 47 C.F.R. §§ 1.41, 1.43 and 1.44(e).

[2] 47 U.S.C: § 765(f).

[3] 47 U.S.C. § 316.

of the Communications Act (the "Act")[4] The Order should be stayed.

2. As set forth in this Motion[5], PSSI will suffer substantial harm if the Order is not stayed. The Commission is already aggressively implementing the Order. In addition, PSSI has a substantial likelihood of succeeding on judicial review in its claims against the Order

I. Procedural Status

3. PSSI has sought judicial review of the Order.[6] ABS Global Ltd., Empresa Argentina de Soluciones Satelitales S.A., Hispamar Satélites S.A. and Hispasat S.A. (Hispasat) (collectively the "SSOs"), have also sought judicial review of the Order.[7] The SSOs filed a Petition for Stay on May, 15, 2020. PSSI filed Comments and Reply Comments in support of the SSO Petition. On June 10, 2020, the Commission denied the Petition for Stay.[8]

4. PSSI believes that under Section 402(c) of the Act,[9] which provides that as soon as a notice of appeal has been filed "the court shall have jurisdiction of the proceedings and of the questions determined therein and shall have power, by order, directed to the Commission or any other party to the appeal, to grant such temporary relief as it may deem just and proper[,]" PSSI could have proceeded directly to the court to seek a stay. Moreover, given the position taken by the Commission in the Stay Order, in which it dismissed PSSI's arguments in support of the SSOs Stay Petition, PSSI's now requesting a stay before

[4] 47 U.S.C. §§ 151, et seq.

[5] See also the Declaration of Robert C. Lamb, CEO of PSSI, which is Exhibit 1.

[6] *PSSI Global Services, L.L.C. v. Federal Communications Commission, et al.*, Case No. 20-1142. The SSO appeal and petition for judicial review have been consolidated with the PSSI cases

[7] *ABS Global Ltd., et al. v. F.C.C.*, Consolidated Case Nos. 20-1146 and 20-1147

[8] *In the Matter Expanding Flexible Use in the 3.7 – 4.2 GHz Band (Order Denying Stay Petition)*, DA 20-609 (Wireless Tel. Bur. June 10, 2020) ("Stay Order")).

[9] 47 U.S.C. § 402(c).

the Commission might likely be futile[10]. However, there is some question whether there are sufficient differences between PSSI and the SSOs in terms of the harms suffered and relief sought, so that PSSI is providing this opportunity to the Commission to address the errors in the Stay Order and stay the effectiveness of the Order. PSSI requests that the Commission act by June 24, 2020. If the Commission does not act by that date, PSSI will seek relief from the U.S. Court of Appeals for the D.C. Circuit.

II. Summary of Argument

5. PSSI is the leading full-service satellite transmission and mobile transportable solutions company operating in the United States. PSSI operates a fleet of more than 60 C-band and Ku-band vehicles,[11] which can operate from any location without having a fixed latitude and longitude, unlike stand-alone, fixed receive antennas (the "Transportables").[12]

6. The Order enacts numerous, drastic changes to the rules governing the C-band, including taking away 60% of the available C-band spectrum currently used for distribution of video programming. The Commission has issued licenses to PSSI for the Transportables that permit PSSI to receive global satellite signals in the 3.7-4.2 GHz frequency range in the C-band from any location (downlink – i.e., receiving a signal from a satellite), which are permanently paired on those authorizations with authority to transmit on the 5.925-6.425 GHz band (allowing the uplink – the transmission of the signal to the satellite) (the "Licenses").[13] By taking 300 MHz of spectrum, as well as failing to provide sufficient interference and

[10] Fed. R. App. P. 18(a)(2)(A).

[11] These vehicles are fully redundant satellite transportable uplink/downlink trucks and flyaway systems covering the entire United States.

[12] PSSI also owns Pittsburgh International Teleport ("PIT"), a 36-acre teleport facility that transmits, receives, and distributes video, audio, and data content over satellite platforms, fiber optics, and internet protocol (IP).

[13] "[The] 3.7-4.2 GHz band (space-to-Earth or downlink) is paired with the 5.925-6.425 GHz band (Earth-to-space or uplink), and collectively these bands are known as the "conventional C-band." Order, p. 5 (¶ 8).

power level protections to operators of Transportables like PSSI, the modification in the Order is so total as to render the Licenses worthless and destroy the company's business.

7. The irreparable harms that PSSI has suffered, and which are detailed in the Lamb Declaration, include: (1) the progressive elimination of occasional use ("OU") transponder capacity, which reduces PSSI's ability to provide service at existing levels, if at all, (2) excessively high-power output on in-band and adjacent out-of-band frequencies that already harm the ability to provide reliable service will only get worse, and (3) the related problem that no existing filtering solutions can protect Transportables from interference and damage from high powered emissions of new 5G licensees operating in the lower portion of the C-band. These harms flow directly from the Order.

8. The Order's legal errors on which PSSI is likely to succeed on appeal are several. First, the Commission has decided to auction 280 MHz of the C-band despite the clear prohibition in Section 647 of the ORBIT Act[14] that forbids it. The C-band frequencies are used to provide international and global satellite communications services. The statute plainly forbids auctioning "spectrum used for the provision of international or global satellite communications services."[15]

9. Further, the modifications of the Licenses vastly exceed the Commission's authority under Section 316 of the Act[16]. They are so extensive and pervasive as to render the Licenses a nullity and eliminate the continued ability of transportable, transmit/receive earth station operators like PSSI to continue to provide service to the public, far exceeding the limits for permitted modification.[17]

10. In addition, the Commission modified PSSI's Licenses without adequate notice, in that the Order

[14] 47 U.S.C. § 765(f).

[15] *Id.*

[16] 47 U.S.C. § 316.

[17] *Community. Television, Inc. v. F.C.C.*, 216 F.3d 1133, 1140–41 (D.C. Cir. 2000). *See also MCI Telecommunications Corp. v. AT&T*, 512 U.S. 218, 225 (1994).

modified the uplink portion of PSSI's Licenses after the Commission expressly gave notice that the Commission would be dealing with changes to the 5.925-6.425 GHz band separately from this proceeding[18]. Thus, by repurposing 300 MHz of spectrum in the C-band, the Commission has also effectively eliminated the inextricably linked 300 MHz of the uplink spectrum between 5.925-6.225 GHz paired with the frequencies between 3.7 and 4.0 GHz now to be repurposed for "flexible licensees." Such failure to provide adequate notice of the modification of the uplink authorization is arbitrary, capricious and an abuse of discretion, and fails to constitute reasoned decision making within the meaning of the Administrative Procedure Act ("APA").[19]

11. Finally, the Commission has ignored the existence of immediately available alternatives, such as substantial blocks of frequency ideal for 5G in other mid-band frequency ranges as an alternative to stripping 60% of the spectrum from C-band satellite operators, Transportable Licensees and earth station operators. These include substantial blocks of frequency ideal for 5G in other mid-band frequency ranges. Consequently, the public interest equities support grant of a stay of the Order.

12. The Commission should stay the Order pending completion of judicial review.

III. The Essential Role of the C-band and the Harm Caused to PSSI by the Order

13. Since satellite services began, the C-band has been the preferred and most reliable method of transport-over-satellite for video, audio, and data. It is the principal distribution mechanism for some of the nation's most popular programming, which is transmitted to over 120 million American television households, representing over 300 million people. The C-band is not only necessary for PSSI and its customers because of its preferred transmission reliability and signal quality in inclement weather

[18] *Order and Notice of Proposed Rulemaking in GN Docket 18-122*, 33 FCC Rcd 6915, 6921 (¶ 12).

[19] 5 U.S.C. § 701 et seq.

(something particularly important to meet the commercial insurance requirements for high value pay-per-view and other major event transmissions)[20], but also because of the preferred characteristics of C-band for more efficient high throughput transmissions. (Lamb Decl., Exhibit 1, at pp. 1-2).

14. A key feature of those services is "Occasional Use" ("OU"), whereby Transportables provide live events broadcast coverage, often on very short notice. A notable example of such an OU event dependent on C-band was Capital One's live "The Match II" event for Turner Sports from Medalist Golf Club in Hobe Sound, Florida.[21] Featuring Tiger Woods, Phil Mickelson, Peyton Manning and Tom Brady, Match II raised $20m for COVID-19 charity relief over the Memorial Day Weekend. (Lamb Decl., p. 4, 6-8).

15. As is the case at many venues, there was no fiber alternative to C-band at the location. PSSI C-band transportable earth stations provided all primary and back-up transmission and reception of this event. PSSI provided two C-band satellite trucks at the origination point, and in cooperation with PSSI's Pittsburgh teleport facilities, transmitted two separate paths of video and 16 channels of audio,[22] using four C-band satellite transponders at the same time and the PIT earth stations to provide back-up for the Turner teleport due to the poor weather conditions at both the origination in Hobe Sound, Florida and Turner Sports in Atlanta, Georgia. Prior to the event, PSSI provided C-band transmission and reception all week on the four C-band transponders for testing and event services and were fortunate that the C-band spectrum was still available. (Lamb Decl., p. 8).

16. If this been a typical Saturday in the Fall - when PSSI alone often has more than 15 C-band

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[20] *See* note 21, *infra*.

[21] CNN has reported that the event on Memorial Day Weekend was "the most-watched golf telecast in the history of cable television." https://edition.cnn.com/2020/05/26/sport/the-match-viewership-record-turner-sports-spt-intl/index.html

[22] This also involved 100/100 Mbps of bidirectional data, and 50/50 Mbps of bidirectional internet. (Lamb Decl., p.7, n.9).

transportable earth stations working on at least one C-band transponder each (and each location has their own line-of-sight and RFi clearance concerns), this would have been a much different story regarding availability. Now, with the impending loss of available and viable C-band spectrum across the satellite arc from the Order, protected events such as the successful charity "Match II" will no longer be possible. C-band transponder space will not be available for OU to do even basic event services, let alone the ever more expanding need for increased data and video throughput bandwidth demanded for these types of services. Ku-band spectrum would not have survived the rainy event without uplink rain fade and the complete loss of downlink reception would have been inevitable.[23] (Lamb Decl., p. 9).

17. This is just one recent example of the special capabilities of C-band for OU. Video customers continue to depend on C-band for various reasons. With a C-band satellite communications link transmitting up in 6 GHz and down in 4 GHz there is instantaneous, speed of light, confirmation of signal continuity and quality at both the origination and any endless number of receive locations (point to multi-point). Unlike with fiber, the signal does not travel to untold number of switching and processing locations to get to one destination. In addition, C-band is the preferred spectrum band because it is the only spectrum in which PSSI can provide the required efficient and protected, multi-path and multiplexed production and data communication services required for today's live event coverage. No longer does a program producer need to take large production trucks and matching crew on location to provide all the multi-camera production switching and integration services, but rather all cameras and program feeds can

[23] PSSI has previously noted that "Ku-band is not a substitute for C-band. The possibility of rain at live events makes dependence upon Ku-band transmission unfeasible, given the Ku-band's susceptibility to signal attenuation and rain fade (absorption of a microwave radio frequency (RF) signal by atmospheric rain, snow, or ice, and losses which are especially prevalent at frequencies above 11 GHz). It is also not physically possible to provide the high order modulation multi-path multiplexed solutions to our customers in the higher frequency Ku-band." PSSI Initial Comments, p. 6, n.4. Like so many facts, the Commission has ignored this demonstrable shortcoming of Ku-band as an "alternative" to C-band in claiming that C-band satellite operators and Transportable companies can "maintain the same services as they are currently providing." Order, p. 55 (¶ 131).

be transmitted at the same time, and remote program switching and integration can be provided at a home base. This has now been well recognized by the television industry and explains why PSSI was awarded a Technical Emmy for transporting 28 paths over two C-band satellite transponders back to Charlotte for NASCAR coverage of Daytona racing in 2018 via one transportable satellite earth station truck. Production staff travel and production costs are reduced, and of course risks to safety from COVID-19 type exposure and complications are minimized. The only satellite requirement of course is that there be additional and sufficient C-band spectrum bandwidth available to provide these special, and increasingly more sophisticated, services. (Lamb Decl., pp. 9-10).

18. C-band satellite transmission and fiber optic long haul transmission are often used hand-in-hand as primary and back-up transport methods for major events. Rarely is there comparison of the latency between the signals, but on May 18, 2018, PSSI duplicated exactly the satellite and fiber transmission services providing coverage of a college basketball game from Creighton University in Omaha, Nebraska to CBS Sportsnet in New York City. A total of 14 paths of programming were provided both via fiber from Omaha to CBS in New York City, and via satellite from Omaha to CBS in New York via a downlink of our satellite services at PIT. PSSI provided its own technical facilities throughout on the satellite transmission services, and the fiber transmission feed was provided by another vendor. Bidirectional services were provided, and the round-trip latency via satellite was approximately 1.5 seconds. This was markedly faster than the fiber service, and so much so, that the CBS customer asked PSSI to put a camera on the GPS clock at the origination to prove the validity of what PSSI claimed. There are many factors to be considered when comparing and analyzing latency, and the round-trip physics of transmitting to and from a satellite are obviously not the only ones. Nevertheless, for a programmer to avail itself of such services for quality video content, there must continue to be sufficient OU capacity on the C-band.

(Lamb Decl., p. 10).[24]

19. The loss of 300 MHz of C-band spectrum will severely limit the available and accessible bandwidth that PSSI and other Transportable operators require to serve their customers. PSSI noted in May 2019, when there was then still discussion of repurposing of "only" 200 MHz of the C-band, its concern that "the repurposing of any additional amount beyond 200 MHz would make it almost impossible to continue operating because of the competing demands for transponder capacity."[25] (Lamb Decl., p. 11).

20. Transponder capacity has been lost at an increasingly rapid pace during the course of the C-band rule making and continues to decrease. In December 2018, PSSI noted that there were still 40 OU C-band transponders available.[26] Yet, on May 6, 2020, Intelsat, the largest provider of C-band OU transponder capacity, advised that only 24 OU transponders currently remain available in the same 500 MHz of C-band spectrum inventory, while SES (the second largest carrier) maintains only 2 OU C-band transponders. Thus, even before the satellite carriers announced they would accept accelerated relocation[27], the C-band OU inventory of the major carriers has already dropped by 35%. Given Intelsat's previous statement in December 2018 that it would lose approximately 20 transponders in relocation when reducing (only) 200 MHz of bandwidth (at the time), PSSI expects that number to be considerably higher, when clearing 300 MHz of bandwidth, as will now be required. A reduction of even the 20 OU C-band transponders will reduce the total OU capacity of the two largest carriers to less than six (6) transponders, at most. As recently as June 11, 2020, Intelsat has announced that its Galaxy 3C/8C satellite

[24] PSSI discussed this test during various meetings with the Commission at the time.

[25] PSSI Ltr. dated May 9, 2019 in WT Docket No. 18-122 to Marlene H. Dortch, Secretary of the FCC, re meeting with William Davenport, Chief of Staff to Commissioner Geoffrey Starks.

[26] PSSI Reply Comments, filed December 11, 2018, at p. 9 (¶ 19).

[27] *Public Notice*, "Wireless Telecommunications Bureau Announces Accelerated Clearing in the 3.7-4.2 GHz Band," DA 20-578 (Wireless Tel. Bur. Jun. 1, 2020) ("Acceleration Notice").

will be leaving OU inventory effective at the end of June 2020.[28] This is inadequate when one considers that PSSI alone may clear and utilize two or three times that number of C-band transponders on a weekend during the Fall covering NCAA College Football, NASCAR, WWE, UFC, GOLF, MLB games and playoffs, etc. C-band OU services will cease to exist if this Order is allowed to stand. (Lamb Decl., pp. 12-13). As noted in paragraph 15 above, PSSI needed four transponders this past week to produce a single event, Capital One's live "The Match" event for Turner Sports.

21. Thus, it is evident that the transition and reduction of available C-band OU transponder capacity is already occurring and accelerating. As customers are already being transitioned from one satellite transponder to another, double illumination (i.e., being on two sets of transponders during the transition) is required to duplicate the signal for earth station movements, testing and continuity. This process has begun and will only increase as more difficult C-band transition solutions (such as satellite arc position moves) must be implemented to clear 300 MHz of spectrum. (Lamb Decl., p. 13).

22. This concern regarding the immediate impact of the availability of progressively less bandwidth for OU is not just the position of PSSI. Programmers, led by the National Association of Broadcasters ("NAB") and leading U.S. content companies, have stressed the "important role in the content ecosystem that American television viewers enjoy today" played by transportable operators like PSSI[29]. The Content Companies have noted that these OU events "frequently require temporary fixed uplinks to facilitate breaking news, weather, and other emergent circumstances, which by definition require the use of satellite uplinks with little to no advance notice or opportunity for coordination with other services."[30] ESPN, a

[28] Email from Bob Doty, Intelsat, dated June 11, 2020 to Eric Storile, PSSI/Strategic TV, which is the Addendum to the Lamb Declaration.

[29] Ltr. dated February 14, 2020 from Patrick McFadden, Associate General Counsel, NAB, in Gen. Docket 18-122, to Marlene H. Dortch, Secretary of the FCC.

[30] Comments filed October 28, 2019 by CBS Corp., Discovery, Inc., The Walt Disney Company ("Disney"), Fox Corp., Univision Communications Inc., and Viacom Inc. (the "Content

leading user of OU, has reported an increasing demand for C-band feeds.[31] However, the elimination of the available and protected full band, full arc, C-band OU spectrum resulting from the Order will directly disrupt and eliminate the ability of licensed incumbent C-band transportable service companies like PSSI to provide transmission and reception services for their customer users from location. (Lamb Decl., p. 14). This will constitute a fundamental change to the Licenses.[32]

23. PSSI has already seen the impact of the Order and its ramifications for future OU availability in the form of customer reluctance to commit to future projects. Two significant installation projects for major PSSI clients have been suspended after PSSI informed our customers regarding developments in the C-band proceeding and the Order. (Lamb Decl., p. 12).

24. Yet the harm is not only with respect to loss of capacity for OU. In addition to bandwidth scarcity issues caused by the Order, there is harm to Transportables from the operations of 5G Flexible Licenses in the lower portion of the C-band, which is already occurring in immediately adjacent frequency bands. (Lamb Decl., p. 15).

25. The downlink signal in the 3.7-4.2 GHz band is received by PSSI's antennas at very low power

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Companies," at p. 9.

[31] Ltr. dated June 7, 2019 in WT Docket 18-122, from Matthew S. DelNero, counsel for the Content Companies, to Marlene Dortch, Secretary of the FCC, at p. 2. Disney is ESPN's parent.

[32] In the Stay Order, the Commission rejected PSSI's assertion that the Order and repurposing of C-band spectrum was responsible for the decline in transponders available for OU. Stay Order at p. 10 (¶ 21). To that end, the Commission cited to supposed evidence of a trend towards fiber and away from C-band, citing studies provided by auction proponents Verizon and Ericsson. *Id.*, citing Order at p. 60, n. 394. Significantly, this ignores the practical experience of programmers, who continue and increasingly rely on C-band and now face serious damage to the program distribution ecosystem: "The video distribution system in the United States is built atop the C-band, and it relies on point-to-multipoint satellite video downlinks to reach thousands of headends and broadcast television stations." (Comments of the Content Companies, filed Aug. 7, 2019, at p. 5). See also the experience of ESPN noted above. It also ignores the specific experience of PSSI that, in fact, increasingly more transponder capacity is necessary for presentation of a more sophisticated video product, such as in the Match II event (Lamb Decl. at pp. 10-12).

levels from the satellite located 22,300 miles above the Earth. Consequently, the ability to receive those signals is greatly impacted by others operating in adjacent out-of-band and in-band frequencies, which will include the new 5G Flexible Licenses. PSSI has repeatedly warned about the harm that will result from higher powered operations in the lower portion of the C-band or in adjacent bands, especially by new 5G transmitters of unknown and unregistered locations and power. (Lamb Decl., pp. 15-16).

26. For example, while covering Iowa State Football multiple times in the Fall of 2019 for Fox Sports at Jack Trice Stadium in Ames, Iowa, PSSI's C-band return signal (in the 3.7-4.2 GHz band) was completely unusable on multiple frequencies for Fox. The problem resulted from a Verizon experimental license where Verizon towers were in very close proximity to the Stadium, and two were actually near to where PSSI's C-band Transportables were operating. Although Verizon's license provided for it to operate slightly below PSSI in the 3.65 – 3.70 GHz frequency range at an effective radiated power of up to only 20 watts, PSSI's return reception on location in Ames was nevertheless completely blocked by the interfering signal and unusable.[33] (Lamb Decl., p. 16).

27. Further, there is the question of the higher power output of Flexible 5G Licenses. Although the Order has provided for filtering solutions that may protect *fixed location* satellite receive antennas, so long as there is sufficient geographic separation from 5G source interference and power, no such filtering solution yet exists for the antennas on Transportables that have integrated transmit-reject filters and no physical room for additional filtering on the antenna feed systems. PSSI risks burning out its Transportable antenna earth station receive system electronics as soon as the Transportable is powered on because of the inadequate power level protections in the Order and the inevitable proximity to 5G power sources. (Lamb Decl., p. 16).

[33] PSSI Ltr. dated January 9, 2020 in WT Docket No. 18-122 to Marlene Dortch, Secretary of the FCC, p. 4.

28. After the then existing C-Band Alliance conducted a demonstration of filtering solutions for its customers at Intelsat's Ellenwood, Georgia facility on April 3, 2019, PSSI reported to the Commission that although the filtering solution proposed could protect antennas at fixed locations at power levels originally proposed by CBA, it could not do so for Transportables.[34] Given that power levels of a Flexible 5G License at any location in an urban area would exceed the extremely low power level of the satellite signal sent towards the Earth and that those output levels exceed what had been proposed by CBA, this could cause catastrophic failure of the Transportable receiving antenna system as soon as it is powered on.[35] PSSI's subsequent tests conducted with the CBA at PSSI's Orlando, Florida facilities confirmed that the filters would not protect Transportable antennas.[36] (Lamb Decl., p. 18).

29. Worse still, not only are there as yet no available filters adaptable for Transportable antennas, Transportable operators also will be operating in the dark regarding potential interference. To minimize such interference by 5G Flexible Licenses, PSSI had proposed registration – not prior approval – of the location, frequencies and power levels of 5G Flexible License base stations to allow for inclusion in the frequency coordination process, particularly given the higher power operations of the future 5G mobile carriers[37]. However, the Commission ignored this proposal and worse, will require earth station operators, including Transportables, to carry the burden of showing that 5G Flexible Licenses are being operated at variance from power levels or else accept the interference, notwithstanding that such

[34] PSSI Ltr. dated May 6, 2019 in WT Docket No. 18-122 to Marlene H. Dortch, Secretary of the FCC, accompanying the report of prepared by A.J. Miceli, PSSI's Vice President, regarding the CBA antenna demonstration and problems for transportable operators.

[35] *Id.*, at p. 8.

[36] PSSI Ltr. dated October 18, 2019 in WT Docket No. 18-122 to Marlene H. Dortch, Secretary of the Federal Communications Commission, accompanying Ltr. from Robert C. Lamb reporting on antenna testing results.

[37] PSSI Ltr. dated January 8, 2020 in WT Docket No. 18-122 to Marlene H. Dortch, Secretary of the Federal Communications Commission, at 4; PSSI Ltr. dated February 5, 2020 in WT Docket No. 18-122 in Response to Draft Order, at 5.

interference will wipe out the ability to receive the downlink from the satellites, in no small part because the output levels adopted by the Commission are even higher than had been proposed by the satellite community[38]. (Lamb Decl., pp. 20-21).

30. Thus, the harm from the Order is evident, immediate and ongoing. The Commission's accelerated timetable for implementation of the Order moves forward. As of June 1st, the satellite carriers elected the transition incentives. Transition plans must be delivered by no later than June 19, 2020[39] and the C-band by auction is to commence on December 8, 2020, will only exacerbate the harm to PSSI and others dependent upon the C-band.[40]

IV. Legal Standard for Motion for Stay

31. Whether to grant a stay is governed generally by the standard enunciated by the D.C. Circuit in *Virginia Petroleum Jobbers Ass'n v. Federal Power Commission.*[41] The Commission has incorporated this four-part test in reviewing requests for stay.[42] A party seeking a stay pending judicial review must show: (1) that they are likely to succeed on the merits; (2) that they will be irreparably harmed absent a stay; (3) that a stay will not substantially injure other parties interested in the proceeding; and (4) that a stay is in the public interest.[43] PSSI submits that the harm is already occurring and absent a stay, the Commission is

[38] Order at 136 (¶ 371).

[39] *In the Matter Expanding Flexible Use in the 3.7 – 4.2 GHz Band (Order)*, 35 FCC Rcd ___, DA 20-621 (Wireless Tel. Bur. June 12, 2020).

[40] Acceleration Notice, *supra.* The Commission has already sought comment on the auction procedures for the C-band auction, *Public Notice, "Auction of Flexible Use Service Licenses in the 3.7-3.98 GHz Band,"* 35 FCC Rcd 2601 (Wireless Tel. Bur. 2020), and completed the public comment period for the auction.

[41] 259 F.2d 921 (D.C. Cir. 1958). *See also Washington Metropolitan Transit Comm. v. Holiday Tours, Inc.*, 559 F.2d 841 (D.C. Cir. 1977).

[42] *In the Matter of Detariffing the Installation and Maintenance of Inside Wiring (Memorandum Opinion and Order)*, 2 FCC Rcd 349 (1987)

[43] *Nken v. Holder*, 556 U.S. 418, 434 (2009); *Wisconsin Gas Co. v. F.E.R.C.*, 758 F.2d 669, 673-74 (D.C.

rolling out its plan for repurposing of the spectrum so that it would be a "fait accompli" by the time that the reviewing court were to issue a decision in this appeal.

1. The Order Is Causing Irreparable Harm

32. The authority to grant stays has historically been justified by the perceived need "to prevent irreparable injury to the parties or to the public" pending judicial review[44]. This is such a case. PSSI and similarly situated Transportable operators are already being harmed by the Order. A stay is necessary to avoid setting in motion the machinery of an unlawful auction that cannot be unwound.

33. To demonstrate irreparable harm, a party must show that the harm is certain and great and of such imminence that there is a clear and present need for equitable relief.[45] A party seeking a stay, regardless of the high likelihood of success on the merits, must "demonstrate that irreparable injury is *likely* in the absence of" a stay.[46] The harm that PSSI is suffering is the kind of fundamental business changes that cannot be easily undone should PSSI prevail on appeal.[47] Moreover, not only is it likely, it is also already occurring, as noted in the Lamb Declaration.[48] The harm cannot be undone – except with great difficulty - if the Commission proceeds with the implementation of the Order, which is already moving forward rapidly.

34. PSSI has recounted how the Order is already impacting its OU business. Programming partners have already put projects on hold. The amount of transponders available for OU is rapidly disappearing,

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Cir. 1985).

[44] *Nken v. Holder, supra,* at 432, *citing Scripps-Howard Radio v. F.C.C,*316 U.S. 4, 9 (1942).

[45] *Wisconsin Gas Co. v. F.E.R.C.*, 758 F.2d 669, 673-74 (D.C. Cir. 1985).

[46] *Winter v. NRDC, Inc.*, 555 U.S. 7, 22 (2008) (emphasis supplied).

[47] *FTC v. Qualcomm*, 935 F.3d 752, 756 (9th Cir. 2019)

[48] This is an injury "traceable to an act of the defendant and redressable by a favorable decision." *N.J. TV Corp. v. FCC*, 393 F.3d 219, 221 (D.C. Cir. 2004), citing *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992).

a process that will only accelerate with transponder capacity being taken up by dual illumination during the transition period envisioned under the Order[49], which itself has been accelerated by the accelerated election of which the satellite carriers have availed themselves, with its prospect of substantial incentive payments.[50]

35. Moreover, looming over the entire process is the Commission's auction of the 3.7-4.0 GHz portion of the frequency band, currently scheduled for December 8, 2020,[51] which as noted herein is contrary to law.

36. Not only is the spectrum available for Transportables to provide OU services disappearing, but also the technical rules are flawed, as previously noted. Under Section 303(y) of the Act, the Commission is authorized to issue flexible-use licenses -- the type of licenses it intends to auction in this proceeding – yet only where the flexible use "would not result in harmful interference among users."[52]

37. However, that is simply not true in the Order. PSSI has demonstrated that higher powered operations in the lower portion of the C-band or in adjacent bands will wipe out its ability to provide service at OU venues for its customers, as occurred from Verizon facilities at Ames, Iowa in the Fall of 2019. (Lamb Decl., p. 13). PSSI has presented evidence that no filters yet exist to protect Transportable antennas from harmful interference; that the power levels from 5G License at any location in an urban area would exceed the extremely low power level of the satellite signal sent towards the Earth and will

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[49] As the Content Providers have noted, "Dual illumination requires twice the satellite capacity just to deliver the same content during the relevant time period." Comments by Content Providers, filed Aug. 7, 2019, at p. 9.

[50] *Public Notice, "Wireless Telecommunications Bureau Announces the Process for Accelerated Relocation Elections by Eligible Space Station Operators in the 3.7–4.2 GHz Band*," 85 Fed. Reg. 30956 (May 21, 2020).

[51] The Commission has already sought comment on the auction procedures for the C-band auction, *Public Notice, "Auction of Flexible Use Service Licenses in the 3.7-3.98 GHz Band,*" 35 FCC Rcd 2601 (Wireless Tel. Bur. 2020), and completed the public comment period for the auction.

[52] 47 U.S.C: § 303(y)(2)(C).

cause catastrophic failure of the Transportable receiving antenna system as soon as it is powered on. The Order ignores these facts, as well as reasonable alternatives such as requiring registration of the locations of new Flexible 5G Licenses to allow coordination, and which in turn would provide a solution that complies with Section 303(y) of the Communications Act.

38. The injuries caused by the Order are concrete and already occurring. The Commission is acting rapidly to implement the Order, so that absent a stay, the damage caused to PSSI will be a fait accompli. To allow this Order to take effect prior to completion of judicial review will only exacerbate the harm and immediately threatens the continued viability of the Transportable industry and specifically the future of PSSI.

2. PSSI Will Prevail on the Merits of its Appeal

a. The Commission Has Acted Contrary to Law

39. In 2000, Congress adopted Pub. L. 106–180, which included the ORBIT Act.[53] The purpose of the statute was "to promote a fully competitive global market for satellite communication services for the benefit of consumers and providers of satellite services."[54]

40. In doing so, Congress enacted certain restrictions on the spectrum used by those satellites. Section 647 of the ORBIT Act states that the Commission "shall not have the authority to assign by competitive bidding … **spectrum used for the provision of international or global satellite communications services**."[55] Yet that is precisely what the Commission has done in the Order: auctioning spectrum being used for international communications services. On this basis alone, a reviewing court can and will vacate the Order.

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[53] Pub. L. 106–180, § 1.

[54] *Id.*, § 2.

[55] 47 U.S.C. § 765f (emphasis supplied).

41. The meaning of the statute is plain – "shall not have the authority." When it adopted the ORBIT Act, Congress made plain its intention that the spectrum being used for international service not be subject to competitive bidding. The C-band spectrum is specifically and presently used by the existing satellite operators like Intelsat for "international" and "global communications services," which are downlinked on the C-band to parties like PSSI and its Transportables. The existing licensed satellite operators provide coverage not only to the Continental U.S., but also to Mexico, Canada, the Caribbean and beyond. Indeed, at the request of the U.S. media industry, PSSI conducts C-band operations in a range of foreign locations. As an example, PSSI regularly ships C-band vehicles to foreign locations such as the Bahamas to assist in the delivery of programming to be downloaded via Intelsat or Eutelsat satellites for distribution to U.S. audiences. Separately, the SSOs downlink programming from Latin America on the C-band[56]. As recently as 2019, the NBA finals were transmitted from Canada. These international uses are possible because the orbital slots granted to the geostationary satellites ("GSO") permit such international coverage.

42. The C-band rulemaking thus provides an even clearer case against an auction than *Northpoint Technology, Ltd., and Compass Systems, Inc., v. F.C.C.*, 412 F.3d 145 (D.C. Cir. 2005). Significantly, the court in *Northpoint* contrasted the facts there with a situation involving the spectrum being used for international service "as section 647 prohibits only the auctioning of spectrum that is 'used for' international or global satellite communications service, *see* 47 U.S.C. § 765f. *Id.*

43. Here, the C-band spectrum is presently assigned in the Table of Allocations for GSO satellites and earth stations, including Transportables, and is presently being used for international and global communications services. PSSI has recounted how it has been used for programming, for example, received from Canada and the Bahamas (Lamb Decl., p. __), so that the applicability of the ORBIT Act

[56] PSSI Initial Comments, p. 8; Lamb Decl., p. 7.

prohibition is clear.

44. Nor can the Commission rely on the MOBILE Now Act[57] as a basis for claiming that it has authority to repurpose and auction the C-band spectrum. Section 605(a) requires a report to Congress, which the Commission has yet to produce,[58] evaluating the feasibility of allowing commercial wireless services, licensed or unlicensed, to use or share use of the frequencies between 3700 megahertz and 4200 megahertz" with Federal government users of the band. In any event, Congress did not authorize an auction of the spectrum and did not repeal Section 647 of the ORBIT Act.[59]

45. Similarly, the Commission cannot fall back on its residual auction authority under Section 309(j)(1) of the Communications Act.[60] The ORBIT Act is quite specific in its prohibition on auctioning spectrum used for international or global services: "**Notwithstanding any other provision of law, the Commission shall not have the authority to assign** by competitive bidding orbital locations or spectrum used for the provision of international or global satellite communications services."[61] Indeed, the final version of the statute was even firmer on this point than the original text adopted by the Senate: "**Notwithstanding any other provision of law, the Commission shall not assign** by competitive bidding orbital locations or spectrum used for the provision of international or global satellite communications services."[62] Nevertheless, whatever the differences between the Senate's original

[57] Pub. L. No. 115-141, Division P, Title VI, § 601 *et seq.* (2018)

[58] Order, at 4, n. 11. Moreover, not only has Commission not produced the report required by Section 605(d) of the MOBILE Now Act, it has not much less circulated it jointly with the NTIA for public comment. The report was due "[n]ot later than 18 months after the date of enactment of this Act." Section 605(b). The MOBILE Now Act became law on March 23, 2018.

[59] MOBILE Act Now, § 605(b).

[60] 47 U.S.C. § 309(j)(1), cited at Order at 30 (¶ 59).

[61] 47 U.S.C. § 765(f) (emphasis supplied).

[62] Report of the Committee on Commerce, Science and Transportation on S.376, Report No. 106-100, p. 32.

formulation and the final version of the statute as adopted into law, Congress' intent is quite clear: This provision "prohibits the Commission from assigning by competitive bidding either orbital locations or spectrum used for the provision of international or global satellite communications services."[63] Congress has never repealed this prohibition in the ORBIT Act.[64]

46. As the D.C. Circuit has recently held, "an agency [o]rder that is at odds with the requirements of the applicable statute cannot survive judicial review." *United Parcel Service, Inc. v. Postal Regulatory Commission,* 955 F.3d 1038, 1050 (D.C. Cir. 2020), citing *Michigan v. EPA*, 135 S. Ct. 2699, 2706 (2015). Here, the action of the Order in repurposing and auctioning 60% of the C-band spectrum is fundamentally at cross purposes to the statute, which provides that the Commission "shall not have the authority" to auction off the C-band spectrum.[65]

47. The Commission cannot act where it contravenes statutory authority, something it is plainly doing. Accordingly, PSSI will prevail on this argument.[66]

b. The Commission Has Exceeded its Authority Under Section 316 by Fundamentally Altering the Licenses for the Transportables

48. The Commission maintains that it has permissibly modified the Licenses[67] and that Transportable operators and other FSS licensees will continue to be able to deliver substantially the same service after

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[63] *Id.,* at 12.

[64] The ORBIT Act was adopted subsequently to the grant of auction authority under Section 309(j)(1) of the Act.

[65] 47 U.S.C. § 765(f).

[66] This is not the only statutory failing of the Order. The dissenting Commissioners and the SSOs strongly object on statutory grounds to the de facto diversion of auction proceeds. Although that is separate from the issue being raised by PSSI regarding the ORBIT Act, it still demonstrates the questionable statutory authority for the decisions taken in the Order. Order at 217 (Dissenting Statement of Commissioner Rosenworcel) ("With today's action the FCC substitutes its will for the will of Congress."); Order at 220 (Dissenting Statement of Commissioner Starks).

[67] Order, at 52 (¶ 124).

the modification as they were able to provide before the Commission adopted the Order.[68] The Commission goes one step further in its error. It maintains that PSSI and others similarly situated are not really licensees; that "earth station operators like PSSI hold no licensed spectrum usage rights in the C-band."[69] These assertions by the Commission run against the clear, factual record demonstrating the contrary, the rights that PSSI has under the Licenses PSSI has held for decades and the legal limits in Section 316 of the Act to modify the Licenses.

49. The Commission's contention that the authorizations do not constitute "licenses" under the Act, with all the responsibilities and the rights and privileges attendant to such authorizations, is misplaced. There is no way to define the Licenses held by PSSI as anything but "licenses"[70] as that term is defined in the Act. PSSI has met all the conditions of the Licenses, including performing the necessary frequency coordination for the numerous locations at which it is present in order to provide C-band services for live events programming.

50. Notwithstanding that with the portion of the Licenses in the 3.7-4.2 GHz frequency range, PSSI does not itself engage in the "transmission of energy" as defined in Section 3(57) of the Act[71], in the 3.7-4.2 GHz portion of its license, the authorized antennas transmit in the paired uplink Earth-to-space C-band frequency spectrum pursuant to the authorization. Thus, the 3.7-4.2 GHz portion of the band provides "services incidental to such transmission" which are encompassed within the statute's definition of "transmission of energy"[72] by taking the signal from the satellite operators and permitting its distribution to earth. In other words, if a licensed and authorized Transportable did not provide a signal

[68] *Id.*, at 57 (¶ 135).

[69] Stay Order, at 10 (¶ 21).

[70] 47 U.S.C. § 153(49).

[71] 47 U.S.C. § 153(57).

[72] 47 U.S.C. §§ 153(49) and (57).

to a satellite in the C-band uplink frequency band (5.925-6.425 GHz), then no transmission in the C-band downlink (3.7-4.2 GHz frequency band) would be transmitted back to Earth. This is the "bent pipe" described in Mr. Lamb's Declaration[73]. Indeed, the Commission previously recognized the need for interference protection for such C-band operations from out-of-band operations[74], so that it is clear that the Commission previously recognized C-band spectrum usage rights.

51. These usage rights in the conventional C-band spectrum between 5.925 GHz and 6.425 GHz are required in order to transmit a signal to the satellite, and it is this "transmitted energy" that in turn provides the means for the satellite space station to transmit back to Earth in the 3.7 GHz to 4.2 GHz C-band spectrum. There is not one without the other. The two are linked at the satellite, and if Transportables are not able to use one, then effectively they cannot use both. By eliminating PSSI's use of 300 MHz of the C-band, the Commission has fundamentally altered the Licenses by also eliminating 300 MHz of the uplink. Significantly, the Commission describes them as linked: "For FSS, the 3.7-4.2 GHz band (space-to-Earth or downlink) is paired with the 5.925-6.425 GHz band (Earth-to-space or uplink), and collectively these bands are known as the "conventional C-band."[75]

52. Removing 60% of the usable spectrum impacts how satellites and Transportables use OU for live coverage of major broadcasting events and ensures such use will be always more difficult – if even possible - because of the changes made in the Order. This demonstrates only one way in which the PSSI Licenses have been fundamentally altered.[76]

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[73] Lamb Decl., p. 5.

[74] *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band (Order and Second Further Notice of Proposed Rulemaking)*, 30 FCC Rcd 3959, 4047 (¶ 296) (2015) (C-band FSS stations entitled to protection from out-of-band Citizens Broadband Radio Service in the 3.5 MHz band).

[75] Order, at 5, ¶ 8.

[76] The Licenses are also affected by the Commission's failure to provide sufficient interference and power level protections to operators of Transportables like PSSI. See p. 16-17 of this Request, *supra*.

53. The Commission concedes that its authority under Section 316 is limited to those situations "where the affected licensee is able to continue providing substantially the same service following the modification."[77] Yet that is not what the Commission has done. As a result of the taking away of 300 MHz of spectrum from the operators of Transportables like PSSI, the modification in the Order is so total as to render the Licenses worthless and destroy the company's business.[78]

54. As the D.C. Circuit noted in *Community Television*, in suggesting the limits to the Commission's power to modify a license, the affected broadcasters in that case "will begin and end the transition period broadcasting television programming to the public under very similar terms[,]"[79] so that the modification was permissible. As later clarified by the Court, "the Commission's section 316 power to 'modify' existing licenses does not enable it to fundamentally change those licenses."[80] However, here the Commission has fundamentally changed the Licenses. There is nothing "similar" to PSSI's situation following the adoption of the Order.

55. The Supreme Court has expressed it in this manner: the power of the Commission to "modify" an authorization "has a connotation of increment or limitation"[81] and "does not contemplate fundamental changes."[82] Notwithstanding that the Commission found – and the Court affirmed – in the *Community Television* case a permissive modification, the changes wrought by the Order are fundamental.

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[77] Order at 57 (¶ 135), citing *Community Television, Inc. v. F.C.C.*, 216 F.3d 1133, 1140–41 (D.C. Cir. 2000). Significantly, in *Community Television*, the Court applied that reasoning to Section 316 of the Communications Act and suggested that impairing the ability of a licensee to provide the same services as those enabled by the original license might be considered a fundamental change.

[78] The failure of the Commission's modification argument is exacerbated by the Commission's failure to provide sufficient interference and power level protections to operators of Transportables like PSSI.

[79] *Community Television, supra*, 216 F.3d at 1141.

[80] *Cellco Partnership v. F.C.C.*, 700 F.3d 534, 543 (D.C. Cir. 2012).

[81] *MCI Telecommunications Corp. v. AT&T Co.*, 512 U.S. 218, 224 (1994).

[82] *Id.*, at 226.

Despite it being clear that having an FCC license does not vest a property right, it has long been recognized that a license is a thing of value to the person to whom it is issued; a business conducted under it may be the subject of injury and that license confers a private right, although a limited and defeasible one.[83] By eliminating the majority of the spectrum available for operation of the Transportables, as well as the technical limitations that the Order place on the Licenses, the Commission has caused such an injury. What the Commission dismisses as a mere "modification" is in fact a death sentence for Transportables and OU programming. The Commission has exceeded its statutory authority in eliminating the business of the satellite operators like the SSOs and Transportable operators like PSSI in the guise of "modification of license."

56. Moreover, the Commission's justification that licensees can provide the same level of service – which itself has been proven to be false – is at odds with the text of the Act. Section 316 addresses modifications to "station license[s]" and the rights conferred thereby—it says nothing about current levels of service to existing customers[84]. A "'fundamental change[]' to the terms of [an] existing license[]" depends on how the decision affects the rights held by the licensee -- not the current level at which those rights are being exercised."[85] A license is modified for purposes of Section 316 when an unconditional right conferred by license is substantially affected.[86] The Order substantially restricts those rights for Transportable operators like PSSI. This restriction comes in the form of elimination of the right to use of 60% of the authorized uplink and downlink C-band spectrum, not the substitution of one channel for a comparable or better one.[87]

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[83] *L. B. Wilson, Inc. v. Federal Communications Com.*, 170 F.2d 793, 798 (DC Cir. 1948).

[84] 47 U.S.C: § 316.

[85] *Cellco, supra.*

[86] *P &R Temmer v. F.C.C.*, 743 F.2d 918 (D.C. Cir. 1984).

[87] See generally*, Transcontinent Television Corp. v. F.C.C.*, 308 F.2d 339 (D.C. Cir. 1962).

57. By claiming that a licensee can perform under Section 316 as it has prior to adoption of rules that fundamentally alter the terms and ability to provide service, the FCC makes a mockery of its power to "modify". "An agency [o]rder that is at odds with the requirements of the applicable statute cannot survive judicial review."[88] PSSI will prevail on their arguments regarding the limits on the Commission's power to modify their respective authorizations.

c. The Commission Has Failed to Provide Notice of the Modification of the Uplink Portion of the Licenses.

58. The Commission has also failed to give proper and adequate notice to PSSI of these fundamental changes to the "uplink" portion of its Licenses. The Order has now modified PSSI's Licenses without adequate notice, in that the Order modified the uplink portion of PSSI's Licenses after the Commission expressly gave notice that the Commission would be dealing with changes to the 5.925-6.425 GHz band separately from this proceeding[89]. By repurposing 300 MHz of spectrum in the C-band, the Commission has also effectively eliminated the inextricably linked 300 MHz of the uplink spectrum between 5.925-6.225 GHz paired with the frequencies between 3.7 and 4.0 GHz now to be repurposed for "flexible licensees."

59. As the Court of Appeals has only recently noted in vacating an order of the Commission in the Lifeline proceeding, "For notice to be sufficient, the final rule must be "a logical outgrowth" of the proposed rule in the sense that the original notice must "adequately frame the subjects for discussion."[90] Here, not only was the issue inadequately framed for the C-band proceeding, the Commission expressly disclaimed that it would modify the "uplink" portion of the Licenses in the C-band proceeding.

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[88] *UPS v. Postal Regulatory Commission, supra*, 955 F.3d at 1050.

[89] *Order and Notice of Proposed Rulemaking in GN Docket 18-122*, 33 FCC Rcd 6915, 6921 (¶ 12).

[90] *National Lifeline Association v. F.C.C.*, 921 F. 3d 1102, 1115 (D.C. Cir. 2019), citing *Omnipoint Corp. v. F.C.C.*, 78 F.3d 620, 631 (D.C. Cir. 1996).

60. The Commission cannot impose a sanction – here the modification of the "uplink" portion of PSSI's Licenses – where inadequate notice is given.[91] To constitute proper notice, PSSI should have been able to have "'have anticipated' the agency's final course **in light of the initial notice**" in the proceeding[92] Where the Commission has specifically said that it would not do so, it logically follows that it would not modify the uplink portion of the Licenses. Thus, the Commission has acted arbitrarily and capriciously when it failed to give adequate notice of the change in PSSI's Licenses.

3. Neither Third Parties nor the Public Interest Will Be Harmed by a Stay

61. In addition to irreparable harm and likelihood of success on the merits, grant of a stay will harm neither the public interest nor third parties. Even if that were not the case, the harm that other parties may endure because of imposing a stay is outweighed by the irreparable injury that PSSI would sustain absent a stay and tilts the balance in favor of granting the stay.[93]

62. The public interest will not be harmed. There is more than sufficient spectrum currently available and more immediately deployable in the mid-band range, [94] so that a short delay in any C-band auction, pending completion of judicial review, is reasonable. PSSI has also noted this on various occasions in this proceeding. For example, the incentive auction made 70 megahertz of spectrum available as of 2017 and the previous major spectrum auction, the AWS-3 auction, made 65 megahertz available. There are blocks of AWS-4, 700 MHz E Block, and H Block spectrum currently going unused. More recently, T-Mobile has inherited substantial unbuilt 2.5 GHz spectrum from Sprint as a result of their recently

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[91] *SNR Wireless License Co. v. F.C.C.*, 868 F.3d 1021, 1043 (D.C. Cir. 2017) (a basic principle of administrative law that an agency cannot sanction an individual for violating the agency's rules unless the individual had "fair notice" of those rules).

[92] *National Lifeline, supra*, citing *Covad Communications Co. v. F.C.C.*, 450 F.3d 528, 548 (D.C. Cir. 2006) (emphasis supplied).

[93] *Iowa Utils. Bd. v. F.C.C.,* 109 F.3d 418, 426 (8th Cir. 1996). *See also Winter, supra.*

[94] *Transforming the 2.5 GHz Band*, Order, 34 FCC Rcd 5446 (2019); *Promoting Investment in the 3550-3700 MHz Band*, Order, 33 FCC Rcd 10598 (2018).

consummated merger.[95] In addition, the Commission has already begun its auction for the 3550-3650 MHz band[96]. In other words, there is no shortage of alternative mid-band spectrum currently available, such that it is imperative – in the middle of an enormous economic contraction – to put the C-band spectrum on the auction block before judicial review of the Order can be completed.

63. Thus, there is no harm to third parties or the public interest which could preclude grant of the stay. Indeed, the public interest is served by not having to undo an auction once underway. Accordingly, the Commission should grant the instant request and stay the effective date of the Order.

V. Conclusion

64. The Order, by eliminating 60% of the available spectrum, devastates C-band as the most viable and successful transport solution for interactive and point-to-multipoint broadcast transmission services. PSSI has demonstrated that the Commission has ignored a clear statutory directive in the ORBIT Act against auctioning the C-band spectrum. The Order contains substantial errors in the Commission's characterization of a "modification" of PSSI's C-band licenses that are, in fact, fundamental changes beyond those permitted under Section 316 of the Act. PSSI has also demonstrated that the Commission has modified the Licenses without proper notice of the change to the uplink portion of the Licenses; indeed, after specifically disclaiming that it would do so. Further, PSSI has demonstrated that it will prevail on these claims on judicial review.

65. PSSI has also demonstrated the substantial harm to the company, as well as to the entire video distribution system. The harm that it has demonstrated is already occurring and irreparable.

66. Further, neither the public interest nor third parties would be harmed by grant of the stay. There

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[95] *In the Matter of Applications of T-Mobile US, Inc., and Sprint Corporation*, 34 FCC Rcd 10578, 10619 (¶ 98) (2019).

[96] *Public Notice, "Auction of Priority Access Licenses for the 3550-3650 MHz Band,"* DA 20-591 (Wireless Tel. Bur. Jun. 8, 2020)

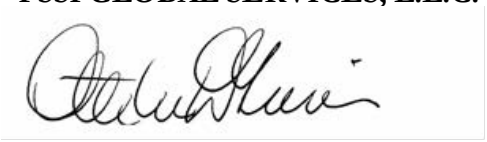
is more than sufficient mid-band spectrum available for 5G services at the present time, so that there would be no harm to the public interest by grant of a stay.

67. This Request for Stay meets the *Virginia Petroleum Jobbers* test. The Commission should grant the instant request.

WHEREFORE, in light of the foregoing, PSSI respectfully requests that the Commission stay the Order.

Respectfully submitted,

PSSI GLOBAL SERVICES, L.L.C.



By: _____

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Its Counsel

Dated: June 17, 2020

Exhibit 1 to Motion for Stay

DECLARATION OF ROBERT C. LAMB

Declaration of Robert C. Lamb

I, Robert C. Lamb, do hereby declare as follows:

A. Background

1. I am the Chief Executive Officer and Manager of PSSI Global, L.L.C. ("PSSI" or the "Company") and have served in this capacity since PSSI was founded. PSSI was formed to provide consultation, coordination and engineering of television production and satellite transmission services for the corporate, entertainment and broadcast industries. PSSI is today the leading full-service satellite transmission and mobile transportable solutions company operating in the United States.

2. I understand that this Declaration is being submitted as part of PSSI's Motion for Stay of the decision by the Federal Communications Commission, *In the Matter Expanding Flexible Use in the 3.7 – 4.2 GHz Band (Report and Order and Order of Proposed Modification in GN Docket 18-122)*, 35 FCC Rcd 2343, 85 Fed. Reg. 22804 (Apr. 23, 2020) (the "Report and Order").

3. The 3.7-4.2 GHz frequency band (the "C-band") has been a critical component of PSSI's business since our inception. The C-band has been and continues to be the preferred and most reliable method of transport-over-satellite for video, audio, and data for numerous reasons. It is the principal distribution mechanism for some of the nation's most popular programming, which is transmitted to over 120 million American

television households, representing over 300 million people. The C-band is not only necessary for PSSI and its customers because of its preferred transmission reliability and signal quality in inclement weather (something particularly important to meet the commercial insurance requirements for high value pay-per-view and other major event transmissions), but also because of the preferred characteristics of C-band for more efficient high throughput, multipath and bidirectional transmissions.

4. PSSI operates a fleet of more than 60 vehicles, all of which have FCC authorizations to operate from any location without having a fixed latitude and longitude ("Transportables"), unlike stand-alone, fixed receive antennas. PSSI's Transportables provide essential production, transmission and dissemination services for thousands of high-quality, live video programs and live special events every year. Until the Commission issued the Report and Order, earth station operators in the C-band have been authorized on a "full-band/full-arc" basis, which permits use of all 500 megahertz of the C-band to send and receive programming[1]. These signals in the 3.7-4.2 GHz band – albeit faint because they are downlinked from satellites located 22,300 miles above the earth -- are received by satellite earth stations on the ground, including PSSI's Pittsburgh International Teleport and its large fleet of Transportables. The 3.7-4.2 GHz

[1] The "full-band, full-arc" policy means that satellites have the right to transmit over the entire 500 MHz of the band and earth stations can point their dishes at any satellite along the geostationary arc. Thus, at any point, there are many signals from many satellites transmitting over the entire band all over the country.

frequencies for downlink reception are permanently paired with PSSI's licensed authority to transmit on the 5.925-6.425 GHz band for the uplink signal to the satellite (the "Licenses"). Together these bands are known as the "Conventional C-band," and by the Commission's own admission, there is an inherent and fixed bond between the two that is inseparable[2]. The two bands are directly tied together in the Licenses and the proposed repurposing of the lower 300 MHz of the Conventional C-band downlink spectrum (3.7-4.2 GHz) is in fact repurposing the lower 300 MHz of the Conventional C-band uplink spectrum (5.925-6.425 GHz) as well. Changes made to one frequency band directly impact the other.

5. The Report and Order has proposed numerous, drastic changes to the rules governing the C-band, including taking away 60% of the available C-band spectrum currently used for distribution of video programming. Further, the Report and Order has ignored evidence submitted in the rulemaking by PSSI and others of the impact of effective radiated power and interference from the fifth-generation mobile services (the so-called "Flexible 5G Licenses") allocated by the Report and Order for the 3.7-4.0 GHz portion of the C-band.

6. As outlined below, the Report and Order is already causing irreparable harm to PSSI and other operators of Transportable services. The Commission's contention that PSSI and other Transportable operators will be able "to maintain the same services as

[2] Report and Order at 5 (¶ 8).

they are currently providing"[3] is false. It is not possible to provide current services with 300 MHz (60%) less bandwidth available, as well as the technical limitations imposed on Transportable operators by the Report and Order, even employing improved compression techniques.

7. There are three defects in the Report and Order that are having an immediate impact on Transportable operators like PSSI: (1) the ongoing, progressive elimination of occasional use transponder capacity reduces the ability to provide service at existing levels, if at all; (2) excessively high-power levels of operations on in-band and adjacent out-of-band frequencies that already harm the ability to provide reliable service will only get worse; and (3) the related issue that there are no existing filtering solutions to protect Transportables from interference and damage from high powered emissions of Flexible 5G Licenses.

B. Elimination of Occasional Use Transponder Capacity Means Losing Ability to Provide Services at Existing Levels

8. Since the inception of satellite services, C-band has proven to be the preferred and most reliable method of transport-over-satellite for video, audio, and data for a multitude of broadcasters, corporations, and even the U.S. government because of the special spectrum characteristics of the C-band. A key feature of those services is so-called "Occasional Use" ("OU"), which allows Transportables to provide reliable and

[3] Report and Order, p. 55 (¶ 131).

insurable live events broadcast coverage, as previously noted, often on very short notice.

9. OU is an industry "term of art" to describe part-time use of transponders for individual programs, to contrast with programmers who contract for full-time use of C-band satellite transponders for distribution (for example, HBO, ESPN and CBS, which have dedicated transponders to permit transmission of programming on a 24-hour basis). A transponder is defined as the receiver and transmitter in a communications or broadcast satellite, relaying received signals back to earth.[4] As a practical matter, transponders on C-band satellites operate on a "bent pipe" principle, sending back to Earth exactly what goes into the conduit (from Earth), with only amplification and a frequency shift from "uplink" frequency (in the 5.925-6.425 GHz C-band) to the already paired "downlink" frequency (which is in the 3.7-4.2 GHz band C-band).

10. OU services involve substantial use of the C-band and are essential to PSSI and its customers who rely upon "occasional use" on a daily basis. These broadcast event origination and distribution programs include sports, entertainment, pay-per-view, corporate, news, and government type service coverage of television events and services domestically and worldwide.[5] As recently as June 2019, ESPN, the leading sports

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[4] Collins English Dictionary – Complete and Unabridged, 12th Edition 2014.

[5] Examples of such domestic and international OU events are the annual Academy Awards, as well as nearly every other live award event, such as the Grammy Awards, and the Prime-Time Emmy Awards; the NFL Super Bowl (and other important NFL games), Major League Baseball World Series (and all MLB playoffs, and All Star events, etc.), The Masters (and all PGA golf events), Daytona 500 (and all NASCAR series events), NBA Playoffs (which in recent years included finals transmitted from

programming provider, noted that in the preceding year, it acquired nearly 29,000 sports feeds (e.g., of late-breaking developments, press conferences) over the C-band, which was an increase of more 1,300 feeds provided to it over the C-band in 2017-18.[6]

11. Although OU involves regular use of the bandwidth, it is often not possible to know in advance when or where the Transportables must be dispatched to provide coverage because of the nature of the programming[7]. Moreover, not all geosynchronous orbit satellites and transponders can be used by Transportables for any given OU event at a particular location. Transportable earth stations need to have satellite "line-of-sight" access and transponder frequency clearance to connect with a particular available satellite and transponder.

12. A notable, recent example of the importance of OU was broadcast over the Memorial Day Weekend on May 24, 2020, Capital One's live "The Match II" event for

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and downloaded on C-band from Canada), international competitive soccer (including the World Cup), and the NCAA Men and Women's major playoffs, football bowl games, and basketball championships.

[6] Letter dated June 7, 2019 in WT Docket 18-122, from Matthew S. DelNero, Covington & Burling, counsel for CBS Corp., Discovery, Inc., The Walt Disney Company ("Disney"), Fox Corp., Univision Communications Inc., and Viacom Inc., to Marlene Dortch, Secretary of the Federal Communications Commission, at p. 2. Disney is ESPN's parent.

[7] An example, as noted in PSSI's Initial Comments, filed October 29, 2018, was the 2018 Major League Baseball World Series. Until the Los Angeles Dodgers and Boston Red Sox won their respective league championships (the Dodgers did not win the National League title until Saturday, October 20, 2018), there was no way that Fox Sports could be certain from where they would need to be present for Fox's World Series C-band transmission coverage that began on October 23, 2018.

Turner Sports from the Medalist Golf Club in Hobe Sound, Florida.[8] Match II was a charity golf event broadcast live with Tiger Woods, Phil Mickelson, Peyton Manning and Tom Brady that raised $20m for COVID-19 charity relief. It rained the entire day.

13. As is the case at many venues, there was no fiber availability at the Medalist Golf Club, so that all primary and back-up transmission and reception of this event was provided via PSSI C-band transportable earth stations. PSSI provided two C-band satellite trucks at the origination point, and in cooperation with our teleport facilities at PIT, transmitted two separate paths of video and 16 channels of audio from each of the transportable earth stations.[9] In total PSSI provided 420 Mbps of bidirectional services, via four C-band satellite transponders at the same time and utilized the PIT earth stations to provide back-up for the Turner teleport due to the poor weather conditions at both the origination in Hobe Sound, Florida and Turner Sports in Atlanta, Georgia. Prior to the event, PSSI provided C-band transmission and reception all week on the four C-band transponders for testing and event services and were fortunate that the C-band spectrum was still available. Nevertheless, although some C-band spectrum remains available for the time being, had this been a typical Saturday in the Fall - when PSSI alone often has more than 15 C-band transportable earth stations working on at

[8] CNN has reported that it was "the most-watched golf telecast in the history of cable television." https://edition.cnn.com/2020/05/26/sport/the-match-viewership-record-turner-sports-spt-intl/index.html

[9] This also involved 100/100 Mbps of bidirectional data, and 50/50 Mbps of bidirectional internet

least one C-band transponder each (and each location has their own line-of-sight and RFi clearance concerns), this would have been a much different story regarding availability. Now, with the impending loss of available and viable C-band spectrum across the satellite arc from the Report and Order, protected events such as the successful charity "Match II" will no longer be possible. The necessary C-band transponder space will not be available for OU to do even basic event services, let alone the ever more expanding need for increased data and video throughput bandwidth demanded for the special type of services needed for the Match II. No Ku-band or other spectrum could work or would have survived this weekend's rainy event without uplink rain fade and the inevitable loss of complete downlink reception .[10] Only the availability and crucial use of multiple C-band transponders for OU allowed this very successful broadcast charity event to happen, and assured that the most watched golf telecast in the history of cable television was not a complete disaster.

[10] PSSI has previously noted the problems with the Ku-band as a substitute for C-band. "Ku-band is not a substitute for C-band. The possibility of rain at live events makes dependence upon Ku-band transmission unfeasible, given the Ku-band's susceptibility to signal attenuation and rain fade (absorption of a microwave radio frequency (RF) signal by atmospheric rain, snow, or ice, and losses which are especially prevalent at frequencies above 11 GHz). It is also not physically possible to provide the high order modulation multi-path multiplexed solutions to our customers in the higher frequency Ku-band." PSSI Initial Comments, p. 6, n.4. Like so many facts, the Commission has ignored this demonstrable shortcoming of Ku-band as an "alternative" to C-band in claiming that C-band satellite operators and Transportable companies can "maintain the same services as they are currently providing." Report and Order, p. 55 (¶ 131).

14. Why is there a continued demand for C-band OU services in general and particularly from PSSI? With a C-band satellite communications link of transmitting up in 6 GHz and down in 4 GHz there is instantaneous, speed of light, confirmation of signal continuity and quality at both the origination and any endless number of receive locations (point to multi-point). The signal does not travel to untold number of switching and processing locations to get to one singular destination. There is only one "bent pipe" as previously mentioned, and that is at the satellite. In addition, C-band is the preferred spectrum band in all inclement weather conditions, and is the only spectrum in which we can provide the required efficient and protected, multi-path and multiplexed production and data communication services required for today's event services. No longer does a program producer need to take large production trucks and matching crew on location to provide all the multi-camera production switching and integration services, but rather all cameras and program feeds can be transmitted at the same time, and remote program switching and integration can be provided at a home base. This has now been well recognized by the television industry, and why PSSI was awarded a Technical Emmy for transporting 28 paths over two C-band satellite transponders back to Charlotte for NASCAR coverage of Daytona racing in 2018 via one (1) transportable satellite earth station truck. Production staff travel and production costs are reduced, and of course safety from COVID-19 type exposure and complications minimized. The only requirement of course is that there be additional and sufficient C-band spectrum bandwidth to provide these special, and increasingly

more important, services.

15. What may be less well known is PSSI's comparative testing of latency for similar events over satellite versus fiber on multi-path, multiplexed services. On May 18, 2018, PSSI duplicated exactly the satellite and fiber transmission services providing coverage of a college basketball game from Creighton University in Omaha, Nebraska to CBS Sportsnet in New York City. A total of 14 paths of programming were provided both via fiber from Omaha to CBS in New York City, and via satellite from Omaha to CBS in New York via a downlink of our satellite services at PIT. We provided our own technical facilities throughout on the satellite transmission services, and the fiber transmission feed was provided by another vendor. Bidirectional services were provided, and the round-trip latency via satellite was approximately 1.5 seconds. This was measurably faster than the fiber service, and so much so, that the CBS customer asked us to put a camera on the GPS clock at the origination to prove the validity of what we were claiming. There are many factors to be considered when comparing and analyzing latency, and the round-trip physics of transmitting to and from a satellite are obviously not the only ones. Nevertheless, for a programmer to avail itself of such services for quality video content, there must continue to be sufficient OU capacity on the C-band.

16. The loss of 300 MHz of available and accessible spectrum in the C-band will severely limit the ability of PSSI and other Transportable operators to have available and

accessible bandwidth to serve their customers. PSSI repeatedly stressed this before the Commission in its formal comments, meetings and *ex parte* submissions. For example, in May 2019, when there was then still discussion of repurposing of "only" 200 MHz of the C-band, PSSI noted the concern that "the repurposing of any additional amount beyond 200 MHz would make it almost impossible to continue operating because of the competing demands for transponder capacity."[11] Indeed, from the beginning of the proceeding, PSSI noted the problems for the video community that would result from repurposing even 100 MHz of C-band spectrum, as had been originally proposed by Intelsat and others.[12]

17. Transponder capacity has been lost at an increasingly rapid pace during the course of the C-band rule making and continues to decrease. In December 2018, PSSI noted that there were still 40 OU C-band transponders available.[13] Yet in May 2020, Intelsat, the largest provider of C-band OU transponder capacity, advised that only 24 OU transponders currently remain available in the same 500 MHz of C-band spectrum inventory, while SES (the second largest carrier) maintains only 2 OU C-band transponders. Thus, even before the satellite carriers even announced if they would

[11] PSSI Letter dated May 9, 2019 in WT Docket No. 18-122 to Marlene H. Dortch, Secretary of the Federal Communications Commission, re meeting with William Davenport, Chief of Staff to Commissioner Geoffrey Starks.

[12] PSSI Initial Comments, filed October 28, 2018, at pp. 10, 12)

[13] PSSI Reply Comments, filed December 11, 2018, at p. 9 (¶ 19).

accept accelerated relocation, the C-band OU inventory of the major carriers was already being reduced in anticipation of the Report and Order's taking effect. As of June 1, 2020, all the major satellite carriers have committed to clear the 3.7-4.0 GHz band on the accelerated timeline described in the Report and Order.[14] Specific satellites are being taken out of the OU inventory. As recently as on June 11, 2020, Intelsat informed PSSI – with two weeks' notice -- that its Galaxy 3C/8C satellite will be leaving OU inventory effective at the end of June 2020 and needed to find alternative transponder space for programming already booked by PSSI. (See Appendix 1 to this Declaration, E-mail dated June 11, 2020, from Bob Doty, Intelsat, to Eric Storlie, PSSI Global Services/Strategic Television).

18. Given Intelsat's previous statement in December 2018 that it would lose approximately 20 transponders in relocation when reducing (only) 200 MHz of bandwidth (at the time), PSSI reasonably expects the number of lost transponders to be considerably higher when clearing 300 MHz of bandwidth, as will now be required. A reduction minimally of even the 20 OU C-band transponders will reduce the total OU capacity of the two largest carriers to less than six (6) transponders, at most. This is woefully inadequate for OU purposes when one considers that PSSI alone clears and utilizes two or three times that number of C-band transponders all week during the Fall

[14] *Public Notice*, "Wireless Telecommunications Bureau Announces Accelerated Clearing in the 3.7-4.2 GHz Band," DA 20-578 (Wireless Tel. Bur. Jun. 1, 2020).

simultaneously covering NCAA College Football, NASCAR, WWE, UFC, GOLF, MLB games and playoffs, etc. C-band OU services will cease to exist if this Report and Order is allowed to stand.

19. Thus, it is evident that the transition and reduction of available C-band OU transponder capacity is already occurring and accelerating. As customers are already being transitioned from one satellite transponder to another, double illumination (i.e., being on two sets of transponders during the transition) is required to duplicate the signal for earth station movements, testing and continuity. This process has begun and will only increase as more difficult C-band transition solutions (such as satellite arc position moves) must be implemented for full time transponder use. Satellite carriers are already having to work with each other to facilitate these bandwidth moves, and it is not reasonable to expect that any significant amount of OU bandwidth will remain in the C-band for our industry use for very long.

20. With the adoption of the Report and Order, in addition to the problem of reduced bandwidth overall, there is a question of the cost resulting from the economics of scarcity. As the main satellite operators (Intelsat, SES America, Telesat, Eutelsat) relocate customers leasing transponders on a full-time basis in the repurposed lower 300 MHz to transponders in the remaining 200 MHz of the C-band, the opportunity cost of providing OU will increase. Also, as the National Association of Broadcasters ("NAB") has noted, there is the more fundamental question of whether the main satellite

operators will continue to provide such services and "if they did choose to do so, prices would increase dramatically to reflect continued operating and capital expenses that would need to be recovered" through much less spectrum.[15] At a meeting held on April 9, 2019, I was specifically told by representatives of Intelsat that they had no plans to stop selling full-time use of the reduced C-band transponder capacity if they should have a buyer/user because profits from full-time transponder space is traditionally at least double that from OU, without the cost of OU transponder access management. Such sales will inevitably reduce even further the amount of available capacity for overall OU programming.

21. This concern regarding the immediate impact of the availability of progressively less bandwidth for OU is not just the position of Transportable operators like PSSI. In an *ex parte* filing submitted on February 14, 2020, the NAB, joined by the leading U.S. content companies, stressed the "important role in the content ecosystem that American television viewers enjoy today" played by transportable operators like PSSI[16]. The inevitable elimination of the available and protected full band, full arc, C-band OU spectrum that will result from the Report and Order will directly disrupt and eliminate the ability of licensed incumbent C-band transportable service companies like PSSI to

[15] Comments of the National Association of Broadcasters in WT Docket 18-122, filed August 7, 2019, at 3.

[16] Letter dated February 14, 2020 from Patrick McFadden, Associate General Counsel, NAB, in Gen. Docket 18-122, to Marlene H. Dortch, Secretary of the Federal Communications Commission.

provide their important transmission and reception services for their customer users from location, and will fundamentally change the Licenses.

22. This is not speculation. PSSI has already seen the impact of the Report and Order and its ramifications for future OU availability in the form of customer reluctance to commit to future projects. In the case of two significant installation projects for major PSSI clients, those projects have been suspended when PSSI informed our customers regarding developments in the C-band proceeding and the Report and Order.

C. 5G Operations Are Already Harming the Ability of PSSI's Transportables to Provide Reliable Service for Clients

23. In addition to bandwidth scarcity issues caused by the Report and Order, there are serious technical problems for Transportable operators. PSSI has repeatedly advised the Commission of the harm to Transportables that will occur from the operations of 5G Flexible Licenses in the lower portion of the C-band. This harm is already occurring in immediately adjacent frequency bands, as PSSI consistently reported to the FCC.

24. As explained above, PSSI and other Transportable operators receive a downlink signal in the 3.7-4.2 GHz band at very low power levels from the satellite located 22,300 miles above the Earth. Consequently, the ability to receive those signals is greatly impacted by others operating in adjacent out-of-band and in-band frequencies, which will include the 5G Flexible Licenses to be authorized under the Report and Order. PSSI has repeatedly advised the Commission of the harm that will result from higher

powered operations in the lower portion of the C-band or in adjacent bands, especially by new 5G transmitters of unknown and unregistered locations and power.

25. For example, while covering Iowa State Football numerous times last Fall for Fox Sports at Jack Trice Stadium in Ames, Iowa (most recently on November 23, 2019), PSSI's C-band return (in the 3.7-4.2 GHz band) was completely unusable on multiple frequencies for Fox. The problem was caused by a Verizon experimental license where Verizon towers were in very close proximity to the Stadium, and two were actually near to where PSSI's C-band Transportables were operating. Although Verizon's license provided for it to operate slightly below PSSI in the 3.65 – 3.70 GHz frequency range at an effective radiated power of up to only 20 watts, PSSI's C-band return reception on location in Ames was nevertheless completely blocked by the interfering signal and unusable.[17] During the course of the rulemaking, PSSI offered additional examples of such interference in-band and near "out of band" emissions that shut down its ability to downlink signals from the satellites on location.[18]

D. Damage to Transportable Antennas

[17] PSSI Letter dated January 9, 2020 in WT Docket No. 18-122 to Marlene Dortch, Secretary of the Federal Communications Commission, p. 4.

[18] PSSI Letter dated November 15, 2019 in WT Docket No. 18-122 to Marlene H. Dortch, Secretary of the Federal Communications Commission, accompanying letter from Robert C. Lamb to Chairman Pai and fellow Commissioners, at p. 4 (e.g., interference received at Seattle, Washington - Husky Stadium 11/2/19 (Galaxy 3C, Transponders C4 and C22) – most likely from production-related RF cameras in stadium).

26. Further, in addition to adjacent band interference, there is the extreme concern regarding the inability to protect the antenna receive systems of Transportables from being significantly damaged by higher powered operation by 5G Flexible Licenses. Although the Report and Order has provided for filtering solutions that may protect *fixed location* satellite receive antennas, so long as there is sufficient geographic separation from 5G source interference and power, no such filtering solution yet exists for the antennas on Transportables that have integrated transmit-reject filters and no physical room for additional filtering on the antenna feed systems. I do not exaggerate stating that when a Transportable operator like PSSI turns on the power at an OU event venue, he may burn out his Transportable antenna earth station receive system LNB electronics as soon as the Transportable is powered on because of the inadequate power level protections in the Report and Order and the inevitable proximity to 5G power sources.

27. I note that in its order denying the Petition for Stay[19] filed by Appellants ABS, Inc., etc., which PSSI had supported, the Commission contends that PSSI had "not identif[ed] any technical constraints that would prevent filters from being developed for their mobile earth stations."[20] The Commission has conveniently ignored no less than three presentations and meetings in which PSSI raised this issue during the course of the

[19] *In the Matter Expanding Flexible Use in the 3.7 – 4.2 GHz Band (Order Denying Stay Petition)*, DA 20-609 (Wireless Tel. Bur. June 10, 2020).

[20] Id., at 10 (¶ 21)

proceeding.

28. After the then existing C-Band Alliance[21] conducted a demonstration of filtering solutions for its customers at Intelsat's Ellenwood, Georgia facility on April 3, 2019, PSSI reported to the Commission that although the filtering solution proposed could protect antennas at fixed locations, it could not do so for Transportables.[22] Given that power levels of a Flexible 5G License at any location in an urban area would exceed the extremely low power level of the satellite signal sent towards the Earth, this could cause catastrophic failure of the Transportable receiving antenna system as soon as it is powered on. [23] PSSI's subsequent tests conducted with the CBA at PSSI's Orlando, Florida facilities confirmed that the filters would not protect Transportable antennas, which PSSI reported to the Commission.[24] This is fact, not speculation.

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[21] The consortium among Intelsat, SES Americom, Telesat (Canada) and Eutelsat, which has since been dissolved.

[22] PSSI Letter dated May 6, 2019 in WT Docket No. 18-122 to Marlene H. Dortch, Secretary of the Federal Communication Commission, accompanying the report of prepared by A.J. Miceli, PSSI's Vice President, Satcom Division, regarding the CBA antenna demonstration and problems for transportable operators.

[23] *Id.*, at p. 8.

[24] PSSI Letter dated October 18, 2019 in WT Docket No. 18-122 to Marlene H. Dortch, Secretary of the Federal Communications Commission, accompanying letter from Robert C. Lamb reporting on antenna testing results. Among the findings and conclusions that PSSI made and reported to the Commission in that filing were:

- Even operating at only 2-Watt power levels used in our testing, PSSI noted a 7dB degradation of our satellite receive signal
- Out-of-band interference exceeded threshold limits set forth in the Notice of Proposed Rulemaking at a point far below previously proposed 5G output levels (-

29. Significantly, these filter solutions developed by the CBA entailed lower power thresholds than what the Commission ultimately adopted. The Commission rejected the CBA's more protective limits, as well as any requirement for a designated (40km) stand-off distance measurement from registered earth stations.[25] So, there is now a question of whether even fixed location antennas will not be harmed by significantly higher power levels of the new 5G Flexible Licenses.

30. Worse still, not only are there as yet no available capability to adapt filters for Transportable antennas, Transportable operators also will be operating in the dark regarding potential interference. To minimize such interference by 5G Flexible Licenses, PSSI had proposed registration – not prior approval – of the location, frequencies and power levels of 5G Flexible License base stations to allow for inclusion in the frequency coordination process, particularly given the higher power operations of the future 5G mobile carriers[26]. However, the Commission ignored this proposal and worse, will require earth station operators, including Transportables, to carry the burden

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128 dBm/MHz. The Report and Order allows higher 5G output, so that the problem can be greater.

- Transportables will experience additional 5G interference and distortion properties due to multi-path interference.

Id. at 5.

[25] Report and Order at 126 (¶ 137).

[26] PSSI Letter dated January 8, 2020 in WT Docket No. 18-122 to Marlene H. Dortch, Secretary of the Federal Communications Commission, at 4; PSSI Letter dated February 5, 2020 in WT Docket No. 18-122 in Response to Draft Order, at 5.

of showing that 5G Flexible Licenses are being operated at variance from power levels or else accept the interference,[27] notwithstanding that such interference will wipe out the ability to receive the downlink from the satellites and the adoption by the Report and Order of power levels even higher than had been proposed by the satellite community.

E. Conclusion

31. What I have noted above represents only three examples of the imminent harm to PSSI and its ongoing ability to continue to conduct its business as a result of the Report and Order. Despite the Commission's rhetoric to the contrary, Transportable operators will not be able to service their customers under the changes proposed in the Report and Order, as demonstrated so clearly by the example of troubles experienced in the Fall of 2019 at Ames, Iowa., and troubles fortunately averted over this past Memorial Day Weekend at the charity Match II in Hobe Sound, Florida.

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I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Dated: June 16, 2020

Robert C. Lamb

[27] Report and Order at 136 (¶ 371).

Addendum to Lamb Declaration

Galaxy 3C/8C Leaving OU Inventory -PSSI/Strategic affected

Doty, Bob [redacted]
Thu 6/11/2020 4:47 PM

To: Eric Storlie [redacted] **STV Operations** <[redacted]>
Cc: Bookings <[redacted]>; Neff, Mark <[redacted]>

2 attachments (113 KB)
copy id 139,117 log.pdf; copy id 139,117 work orders.pdf;

Eric, PSSI/Strategic:

We have been informed that Galaxy 3C/8C will be leaving OU inventory effective at the end of June, 2020. You have four inquires on this space, scheduled for October 14 - October 17. These inquires have been amended to Galaxy 3C/12C Lower. See attached log and individual work orders for Copy ID 139,117. The Galaxy 17 KU space will remain as is, and all four inquires are also included in the attachments.

Intelsat apologizes for the inconvenience. Please feel free to contact the NOC or your account rep with any questions.

Best Regards,

INTELSAT

Bob Doty
Network Operations
2875 Fork Creek Church Road, Ellenwood, GA 30294
[redacted]
www.intelsat.com